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ABSTRACT

A project was conducted to determine the computer application competencies needed by a graduate of Wisconsin Vocational Technical Adult Education (VTAE) food service programs. Surveys were conducted of food service graduates and their employers as well as of major companies by the food service coordinators of the VTAE districts in the state; a list of available computer software related to food service was compiled; and literature was reviewed. The top-ranked computer application competencies as revealed by employed graduates were financial information, inventory cost and control, customer count, and meal records. Employers of graduates ranked inventory cost and control, financial information, budget, and meal records highest of the competencies needed by VTAE food service graduates, while the major companies cited financial information, inventory food costs, input information, basics of computer systems, and how computers work as competencies graduates should have. A list of software related to the food service industry that is available for the Apple II computer was compiled and is available in this report. In addition, course outlines related to computer literacy and competency and a list of hardware were compiled and included in the project report. (KC)

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FINAL REPORT

Funded and in cooperation with

The Wisconsin Board of Vocational, Technical and Adult Education
Dr. Robert Sorensen, Director

Conducted through

Center for Vocational, Technical and Adult Education
University of Wisconsin-Stout
Menomonie, Wisconsin 54751

March, 1983

COMPUTER CONCEPTS FOR VTAE FOOD SERVICE

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COMPUTER CONCEPTS FOR VTAE FOOD SERVICE

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March, 1983

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Chapter 1

Summary

The purpose of this project was to determine the computer application competencies needed by a graduate of the VTAE Food Service Program. This statewide project was a cooperative venture among three agencies: Wisconsin Board of Vocational, Technical and Adult Education; Western Wisconsin Technical Institute and University of Wisconsin-Stout.

The objectives for this project follow with summary statements listed below each objective.

1. Determine the computer application competencies that should be provided for VTAE Food Service students as revealed by employed graduates.

   The five top-ranked computer application competencies as revealed by employed graduates are:

Rank	Computer Application Competency
1	Financial information (employee hours, payroll, labor time control)
2	Financial information (days' receipts--food and beverage)
3	Inventory cost and control
4	Customer count
5	Meal records

2. Determine the computer application competencies for which instruction in Food Service should be provided by the VTAE schools as recommended by employers of graduates.

The five top-ranked computer application competencies as recommended by employers are:

Rank	Computer Application Competency
1	Inventory cost and control
2	Financial information (employee hours, payroll, labor time controls)
3	Budget
4	Financial information (days' receipts--food and beverage)
5	Meal records

3. Using a two-round Delphi approach, determine the computer application competencies needed by Food Service graduates as recommended by major companies in each VTAE district.

   The major companies reported the following computer application competencies. They were not ranked.

   a. Financial information

   b. Inventory food cost

   c. Input information

   d. Basics of computer systems

   e. How computers work and their capabilities

4. Determine the computer application competencies needed by graduates as recommended by the National Restaurant Consortium and agencies that employ VTAE graduates.

   The National and State Restaurant Associations reported that they had not determined the computer application competencies needed by Food Service employees.

5. Develop a list of (possibly purchase some) software available that relates to the Food Service computer application competencies identified above.

   Commercial software for computer applications in Food Service is available as a package from some companies. The systems as of this date are too expensive for most districts to purchase. Home-use software related to Food Service is available for Apple and Radio Shack computers. A list of software for the Apple computer is part of this report.

In addition to the above, course outlines related to computer literacy and competency are provided in the report. Also, a list of hardware and curriculum applications from each district is also provided.

Specific Need

Over the last few years, the computer has found its way into practically every American business. It has simplified and systemized many time-consuming activities. It has provided the manager with current, up-to-date information from which to make decisions. In this competitive world of business, those who can make valid decisions based on current information will, no doubt, endure. Within the next ten years, the computer will be a must for many small businesses if they are to remain competitive. The cost of a computer system will be within reach of everyone in the near future.

In the next ten years the computer will also be a must for cost control to determine what the business is doing on a daily basis. Through the use of the computer, it will not be difficult to get the whole picture of an operation on a daily basis.

In the Food Service industry, computers can be used to forecast menu items, inventory control, standardized recipes, view trends by volume of sales, recipe analysis, and accounting. There are many other functions the computer may serve, and a VTAE Food Service graduate must be computer competent if he or she is to assist the owner or manager in meeting the competition in the Food Service industry.

There is a need to determine the computer application competencies needed by a VTAE Food Service graduate. Once identified, these competencies need to become part of the Food Service preparation programs in the VTAE System.

Hardware and software need to be identified to assist staff in infusing computer application competencies in their programs. Recommended computer concepts to be included in the instructional program need to be identified.

Purpose

The purpose of this project was to determine the computer application competencies needed by a graduate of the VTAE Food Service Program and develop a system to integrate these competencies into the VTAE Food Service Programs.

This statewide project was a cooperative venture among three agencies: Wisconsin Board of Vocational, Technical and Adult Education; Western Wisconsin Technical Institute; and University of Wisconsin-Stout.

Objectives

The objectives for this project were as follows:

1. Determine the computer application competencies that should be provided for VTAE Food Service students as revealed by employed graduates.

2. Determine the computer application competencies for which instruction in Food Service should be provided by the VTAE schools as recommended by employers of graduates.

3. Using a two-round Delphi approach, determine the computer application competencies needed by Food Service graduates as recommended by major companies in each VTAE district.

4. Determine the computer application competencies needed by graduates as recommended by the National Restaurant Consortium and agencies that employ VTAE graduates.

5. Develop a list of (possibly purchase some) software available that relates to the Food Service computer application competencies identified above.

Advisory Committee

An advisory committee consisting of Ms. Helen Scheve and Mr. Roland Krogstad, Consultants at WBVTAE; Ms. Barbara Walter, Division Chairperson, Home Economics at WWTI; Ms. Shirley Lotze and Mr. Kent Obert, Food Service staff of WWTI; and Mr. Thomas Prescott of the University of Wisconsin-Stout was created. Orville Nelson and Harold Halfin coordinated the project and met with the advisory committee.

Procedures

The objectives were met through input from the advisory committee. The Food Service coordinators of the VTAE districts were asked to survey Food Service graduates and their employers to determine the Food Service computer application needs by Food Service graduates. In addition, they were asked to interview 6-10 major companies in each district to determine their recommendations on computer applications.

The WBVTAE staff determined the computer competencies needed as recommended by the National Restaurant Association and other national agencies involved with Food Service. The Center for Vocational, Technical and Adult Education assisted.

A list of computer software available that relates to Food Service was identified by the Center for Vocational, Technical and Adult Education. Recommendations were made to the advisory committee on what should be purchased if resources were available. (No purchases were made without advisory committee sanction.)

The Center for Vocational, Technical and Adult Education, through the advisory committee, surveyed the VTAE districts to determine the best method

for utilizing hardware in the various districts. Some districts had compatible hardware so that remote CRTs could be utilized from a central computer. If compatibility was a problem, the Center recommended to the advisory committee a system (micro) that might be purchased.

Chapter 2

Review of Literature

Computers are becoming widely used in business and industry. The computer's smaller size, increased uses, lower price, more availability, and ease of operation has made it an important asset for most large and small businesses. The computer can do many functions to assist the Food Service industry. It can do many types of reports and data which could allow the manager the time to better do his/her job--managing people and creative thinking.

Computers are not to be feared by the manager in a business. Business people originally felt the huge computers of bygone days were far above their mental capacity and understanding. The computer was talked about with reverence to some god. This belief still carries through to many business people--especially those in small business today. Originally, the languages were "foreign" and complicated. Software was not developed and hiring a computer programmer, if one could be found, was expensive. The hardware took up considerable room which had to be located in a room or area which had rigid controls on temperature, humidity, and dust. The systems frequently broke down and repairs were lengthy and expensive. The cost was extremely high which placed computers only in the hands of large businesses and government. Even though some people in business still feel these obstacles exist today, in reality they are gone.

Chips, the size of postage stamps, do hundreds of functions storing as much information as a room full of equipment did 30 years ago.

These chips have enabled the micro-computer today to sit on top of a desk. Computers are not as "finicky" as they once were. They now remain

operable at normal ranges of room temperature and humidity. The languages have become more simplified enabling the person using the computer to use mainly our everyday language. There were, at one time, many languages and each computer company used their language so only their programs could be used on their computers. Some of that problem still exists today, but a more unified language, Basic, is becoming more common.

Interfacing, using the different equipment from different companies and various brands of software, is gradually becoming more common. Many companies are now making software to enable the computer to do many functions quickly and easily. If a system breaks down today, parts and service people are more easily obtainable. Possibly the biggest obstacle for small businesses--the price--has substantially lowered in the last years. A micro-computer for business applications can be purchased in a price range from $1,000 to $15,000. This initial cost will have a definite quick pay-back period even in terms of considering only food and labor cost controls.

The Food Service manager, like all other business people, has these same fears and reservations. Yet the manager must realize the computer industry has changed greatly and become what is known as "end user friendly." The computer is starting to be used by the Food Service industry, but its use should be more widely accepted. Its uses will greatly enhance management.

Types of Computers and Terminology

Before much more discussion can take place, some simple terms and concepts need to be given. The terms may not be as exact as a computer specialist would present but they cover the definitions needed in the Food Service industry for those just being introduced to the computer.

There are four basic parts to the micro-computer: 1) The file storage unit which keeps the information when the computer does not currently need it; 2) The processor which is the "main memory" and brings up or recalls the information for current use; 3) The keyboard and video display--the keyboard is similar to a typewriter for entering or deleting data and the video is the display or screen for confirming what was typed; and 4) The printer gives out all the printed materials such as invoices, paychecks, and inventory records.

Other definitions which will help in understanding computers are listed below.

1. Hardware - The actual equipment of the computer.
2. Software - The programs which tell the computer (hardware) what to do.
3. Disk - What some types of software are programmed on - similar to a record.
4. Floppy disk - A disk which is flexible.
5. Peripherals - Equipment (hardware) which can be connected to work with the computer.
6. Chips - Small parts of the computer which give it memory.
7. Micro-computer - A small computer.
8. Mainframe - A large computer.
9. Host computer - A mainframe which may have terminals fed into it from various restaurants.
10. Language - The instructions or wording which the computer understands.
11. Interfacing - The capability of the computer to tie in with other hardware and use the programs.
12. POS - Point of Sale - The electronic cash register.
13. K - Generally the more Ks a computer has, the more power it contains and the more functions it can do.

Once these simplified terms are in the business person's vocabulary, their knowledge of computer jargon and their understanding of computer articles may become easier. See Appendix A for a glossary of computer terms.

There are three basic sizes of computers--mainframes which are large, expensive, and have a lot of power; mini-computers, which are smaller; and micro-computers, which are the smallest. The difference between a mini- and micro-computer appears to be a judgmental factor of the person using the terms. The micro-computers today have more power than the mainframes of a few years ago. Micro-computers are considered simpler to program, operate, and maintain.

Software, which has been a major problem in the past, is starting to enter the computer market at a fast rate and for much less money than would be possible in hiring a programmer. Since software is to tell the computer what to do, having it available is of utmost importance.

Further in-depth information could be given at this time, but within six months of the information could be outdated. The industry is changing just that fast!

One last word of caution before rushing out and buying a computer. Before looking at the machine, look at the software available for the machine. True, the computer industry is trying to standardize, but it is not there yet.

Computers in the Business World--What They Do

The computer is a tool for you to use. The manager has the control as to how much it can assist one in running the business. The better the knowledge one has of the computer, the more work it can do for the business.

The computer can maintain accounting records, calculate invoices, prepare payroll, maintain inventory levels, general ledger, personnel records, order processing, sales analysis, budgeting and planning, labor distribution, cost accounting, advertising and mailing lists, cash flow projections, check reconciliation, tax records, and many other applications to business are currently being investigated.

Sippl and Dahl, Computer Power for the Small Business, give four criteria which must be met for a computer to be used in business.

1. Ease of use. People who work in the business community, especially the smaller businesses, do not have time to learn complicated methods and terminology. They already spend many more than 40 hours per week to run the business. If most of the methods cannot be learned in one week or less, the business person will not feel he/she can "spare" the time away from his/her business. One also feels that he/she cannot afford to hire a computer specialist. Training only the secretary or assistant also leaves one a feeling that he/she is losing control.

2. Low cost. With the economy as it is today, any large expenditure may be out of reach. Some business people are already "dipping" into their cash reserves for the daily operations. Just saying a computer will save money is not convincing enough. After all, figures can be made to say almost anything.

3. Consumer familiarity. As with any new machine, if the person operating it is not comfortable with its operations, it does not save time. Within a very short period after its introduction, it will sit in the corner to collect dust.

4. Consumer willingness. As with any new procedure or equipment, the person must give it time to "work out the bugs." If the business person is not willing to give a little extra effort during the computer's introduction and be convinced of its potential success to greatly help the business, then the purchase will be a total loss.

The Food Service industry people, like those in other businesses, must closely look at these four criteria. A study is necessary to see what equipment is being used and for what purposes now and in the next five years.

How easy is the equipment to use, how much did it cost, and how long did it take to become comfortable with the computer used are questions necessary before buying a computer hardware or software.

What else can the computer do? Some businesses have discovered large energy savings of programming the computer to "know" when to turn on equipment, heat, air conditioning, lights, and other energy-using equipment. Many businesses lose tremendous energy (heat) through improperly controlled heat exchange systems. The computer also helps in labor productivity. During the time it is in operation or use, it is 100 percent productive versus 60-80 percent for most employees. It can work weekends, nights, and holidays. It receives no fringes and gives no excuses, does not go to the restroom, get a drink, take a smoke or coffee break, bicker with its neighbor, go on strike, complain of a layoff, and other number of excuses for lower productivity. After the paycheck period, it will work for nothing except for minor costs for repairs and maintenance.

Computers and what they are doing in the business world have been in existence a relatively short time. It already is a valuable asset to many businesses, but its value will increase as its usage increases.

The Food Service industry is a part of the business community. Computers can and should become a part of most Food Service facilities. It can do much of the everyday business functions giving the manager time to manage more effectively.

What Computers Can Do in the Food Service Industry

Now, hopefully, the manager feels a little more comfortable talking about computers. The manager knows some of the terms and can see how businesses in general are using computers. But how does that apply to the manager of a restaurant? How can a computer help?

Basically, what the computer is doing for other businesses, it can do for the restaurant and maybe more. It can run a perpetual inventory, update the inventory book on item costs, figure the food cost per item, tell how much should be charged, control cash registers and employee honesty, record employees punching in and out times, record cash receivables, record tip credit, do market quotation surveys, forecasting of menu items and sales, assist in labor scheduling, show trends in sales volume, control guest checks, save employee steps by remote printers, build recipes, figure tax records, analyze time and labor for individual menu items, measure individual employee productivity, be tied to the security system of the restaurant, interact with energy-usage systems, estimate waiting time for tables, do sales and marketing analysis, assist in employee training programs; and the list will continue to grow.

In simple terms, the computer can give the manager free time to do what is supposed to be done--the business of managing a business and people. Many of the details one is doing could easily be done with a computer. Analysis of the restaurant's financial situation will be readily available for decision making.

In today's economy and money market, the restauranteur must be a good businessman to survive. This means one must have adequate business information easily accessible and timely. The computer can efficiently do the job.

Training people for the Food Service industry to better prepare them for computer usage is necessary. The first step appears to be determining what computer uses are currently being used and what will be occurring in the next five years. Knowing this information should point educators in the direction to gear their courses regarding computers and their usage to the Food Service industry for the coming year.

Types of Computers Available to the Food Service Industry and What They Can Do

Computers, because they are becoming smaller with more capabilities at a more reasonable price and because they are becoming simpler to use, are now more feasible to the Food Service industry. The discussion of computers which follows is not intended to give the manager complete information, but only to help him become aware of the various types available and some of their strong points. Further information may be obtained by contacting the individual companies.

The Model M2S from MidWest Micro Systems, Inc., combines POS systems and printers to a mainframe computer which gives it more power than most micro-computers. Original entries do not have to be re-entered because the main computer has the capacity to store them. It can give a daily profit and loss statement, forecasting, and do a sales and marketing analysis giving the customer's age, type, frequency of purchase, distance traveled, and other needed information which helps in target advertising.

Sweda Models 4615 and 4625 are primarily POS systems. POS systems are very useful and ideal for many Food Service operations. They give current information on the business. One of their disadvantages is their lack of ability to tie in with a computer enabling management to "ask" it to do more work and answer the "what if" questions regarding food costing, labor analysis, and fixed overhead expenses. A POS system can give a lot of information but generally cannot be "programmed" to take on added functions giving expanded information.

Dart has a POS system but with an added feature of an automatic timing device so that during certain hours of the day, such as "Happy Hour," the special prices will automatically be used. The Dart systems also use a coded badge system for employees using the system. The biggest advantage

of this system is that employees must use the badge in order to enter into the system. No one else could then learn their code number, as they can in some systems, and enter the system under a different employee.

Casio has a POS system on the market, but it appears to be very similar to many others.

The AM Documenter POS system is designed to give approximately 35 reports from time keeping to productivity reports. It has a simple system for recalling checks when customers wish to reorder. Peripherals are available for the AM Documenter and it can be tied into a host computer.

Computer Concepts, Incorporated uses the Ultimate 2000 mini-computer for the Food Service industry. The system is more expensive than many in the market, but its capabilities are also much greater. It is more suited for use in industrial and institutional settings. The software may be purchased separately, but it cannot be accommodated with many types of hardware. The computer can do recipe construction, inventory control, ordering, menu item counts, forecasting, labor control, financial statements, and compiling of many types of data relating to these functions.

The NCR Corporation has two models, the 2125 and the 2160, which are currently on the market. The Model 2160 is its newest model which has many features. The keyboards are an overlay sheet which can be easily replaced and are wet proof. It contains a very complete guest check control system, tip control records, a timekeeping system, and does many management reports.

Two charts were compiled to attempt to compare the many types of software and hardware. Eight of the 15 companies were initially contacted. Major problems arose in trying to make comparisons. At this point in time, the companies appear to be rapidly entering and leaving the computer market.

This creates a problem of the information being very quickly outdated. Secondly, it is hard to compare computers for the Food Service industry. A computer and software very applicable to the Health Care Food Service industry is of little use to the fast food industry. Thirdly, even though there is little software presently available, many companies are willing to develop it as soon as there is a demand for it. The best solution to these problems appears to be to decide what the priorities are for computer usage in each individual Food Service operation, look for the software available to do these priorities, and then purchase the hardware to accommodate the software.

What Next--In the Future

The future for the micro-computer and its applications to the Food Service industry looks very good. The outlook is for smaller units with more power and capabilities. Some of the "normal" functions of software will be taken over by hardware. Programming will become interfaced and the language will become simpler for the novice's use. More security will be incorporated. Computers will become quicker responding and broader in scope. With micro-computers coming down in price, they will be cost effective for the small businesses. Managers will have less paperwork which will leave them time for managing and creative thinking.

Computers are now starting to do some of the human decision-making processes. An example is screening applicants to tell their strong and weak points. One of the biggest advantages will be eliminating interviewer bias.

Assisting management with training various levels of management and employees is being done by some companies. It allows training to be more consistent and better paced to the individual's needs.

Video game rooms are being added to restaurants. Robots are being added as a novelty to restaurants but are currently being used for production in the manufacturing industries. It is estimated the production industries will be adding 14,000 robots per year to their work forces by 1984.

Computers are quickly becoming a common occurrence to our way of life. There will be many new uses in the next few years to assist people in both their personal and working lives.

Summary

Computers are becoming more common to all industries. Because of their smaller size, cost effectiveness, ease of use, and expanded uses, computers will become an important tool for the Food Service industry. The Food Service industry must learn to adapt to computers and their beneficial uses. The vocational-technical schools, which train people for the Food Service industry, must determine the current and projected use of the computers to better train the people. Much of the success of the future of the Food Service industry rests with the schools.

The review of literature revealed the following computer applications:

- Inventory control
- Inventory costing
- Inventory item costing
- Recipe costing
- Multiplying recipe ingredients
- Purchases(ordering using computer counts)
- Precosting recipes
- Precosting menus
- Menu construction
- Selling prices

- Customer counts
- Forecasting
- Employee hours
- Employee productivity
- Payroll
- Tax records
- Profit and loss statements
- Tip recording
- Guest check tracking
- Energy conservation methods
- Daily labor costs
- Daily sales
- Daily food cost
- Production records
- Personnel records
- Use of remote printers (from the dining room to the kitchen and bar)
- Operation of security system
- Assistance in employee training
- Monitoring cooking
- Labor requirement for hourly dollar volume (staffing chart)
- Budget

Chapter III

Results

This chapter will be subdivided into five parts.

1. Food Service computer application competencies as recommended by major companies in the VTAE districts.
2. Computer application competencies as determined by employed graduates.
3. Computer application competencies as determined by employers of graduates.
4. Computer application competencies as recommended by the National and Wisconsin Restaurant Associations.
5. Information on computers available in the VTAE districts.

Food Service Computer Application Competencies as Recommended by Major Companies in the VTAE Districts

Four districts completed nine interviews of major companies which use computers in the Food Service area. The major companies in which personnel were interviewed were:

Shorewood Inn - 4473 North Oakland Ave., Shorewood, WI 53211

Zarders Restaurant and Cocktail Lounge - 15375 W. Greenfield, New Berlin, WI 53151

780 Club - 780 North Water Street, Milwaukee, WI 53202

Saga Foods - Waukesha, WI 53186

Waukesha Memorial Hospital - Waukesha, WI 53186

Washington Manor Nursing Home - Kenosha, WI 53140

Northern Wisconsin Center - Chippewa Falls, WI 54729

Stafne's Sunset Inn - Eau Claire, WI 54701

Unknown - Eau Claire, WI 54701

The results of the interviews, along with the review of literature, were used to generate a Food Service Employer Form (See Appendix B) and the Employed

VTAE Food Service Graduate Form (See Appendix C). Both forms are the same except for the color coding to make a determination of responses. These same employers were asked to respond a second time on the employer form, along with other employers, which is included in the section on Food Service computer competencies as determined by employers of graduates.

The responses to the interviews follow.

1. What applications are made of the computer in your organization?

- Waitress precheck
- Waitress check
- Waitress computations
- Placing orders
- Bar tabs
- Previous balance checks
- Daily food and beverage totals
- Item totals
- Inventory control
- Labor time control
- Receiving
- Payroll
- Menu construction
- Recipe construction
- Forecasting
- Changing diet instructions
- Diet order list
- Production sheet
- Purchasing

2. What kind of computer-related equipment is used in your Food Service operation?

Equipment	On-Site	Owned by Someone Else
- NCR 2160	X	X*
- NCR 2160	X	X*
- NCR E5 Terminals	X*	-
- NCR	X*	-
- Equipment not identified	-	X
- NCR	X*	-
- Mini-computer	X*	-
- Mainframe	-	X
- Concepts computer systems	X*	-

* Owned * Leased

3. What specific computer skills and knowledge should you (or your employees) have to interact with, or use the computer? (Equipment usage skills, software skills, programming, etc.)

- NCR-provided basic instruction
- None
- On-the-job training by NCR
- Management trained in programming and maintenance
- Input information
- Basics of computer systems
- Working knowledge of computer language and terminology
- Knowledge of programming
- Knowledge of what the computer can do and the ability to to communicate with the data processing staff for needs
- Inventory food cost
- Financial information
- How computers work and their capabilities

4. What suggestions do you have for improving VTAE Food Service programming to better meet your needs?

- Management-level training on how to change a program
- Familiarization with printouts
- Determination of the best equipment to buy which is easy to program and provide printout capability with instant price for inventory (This is a programming problem)
- Incorporation of register training
- Application of computer science to inventory control and ordering
- Explanation of applications of computers to Food Service personnel
- Development of a computer awareness course
- Applications of the computer to an institutional Food Service operation
- Food Service employees need a thorough understanding of computer applications to the Food Service area

Answers to Number Four suggest that VTAE Food Service graduates do need some knowledge of the computer if they are to meet the needs of the employer.

Computer Application Competencies as Determined by Employed Graduates

The VTAE districts with Food Service programs were requested by the Center for Vocational, Technical and Adult Education to survey (Appendix C) their graduates to determine the present use and future projected use of computer applications in their places of employment. Twenty-four usable responses were received which was minimal for statewide purposes.

Table One details the mean, standard deviation, and rank of 20 different Food Service applications utilizing the computer: Financial information (employee hours, payroll, labor time control), financial information (daily receipts for food and beverage), inventory cost and control, customer count, and meal records were the top five ranked applications in present use; and they were projected for future use. The balance of the computer applications were apparently particular to certain specific situations and were not in present use as much as one might expect.

Financial information was considered to be the most important competency for a Food Service graduate to acquire.

Computer Application Competencies
Needed in the Food Service Industry
As Determined by
Employed VTAE Graduates

Computer Application	Present Use*			Projected Use**		
	$\bar{X}$	S.D.	Rank	$\bar{X}$	S.D.	Rank
Inventory cost and control	2.42	1.62	4.	3.77	1.59	2
Purchasing (ordering by computer)	1.58	1.08	14.5	2.62	1.33	12
Recipes (construct with exact amounts of needed ingredients)	1.83	1.59	11.5	2.79	1.72	10
Pre-costs	1.08	0.29	19.	2.21	1.42	15
Menu construction	1.58	1.38	14.5	2.14	1.46	16
Selling prices	2.25	1.86	6.	2.86	1.66	8
Customer count	2.58	1.98	3.	3.21	1.76	4
Forecasting	2.00	1.60	9.	2.93	1.73	6
Meal records	2.33	1.97	5.	3.00	1.84	5
Ordering (food, bar, and paper by computer)	1.42	1.00	17.	2.36	1.55	14
Financial information (employee hours, payroll, labor time control)	3.92	1.50	1.	4.38	1.33	1
Financial information (days' receipts, food and beverage)	3.08	1.85	2.	3.38	1.85	3
Production records	2.08	1.78	8.	2.50	1.74	13
Communicate with computer (floor to kitchen via tape)	1.50	1.24	16.	2.07	1.64	17
Percentage cost of various functions	2.18	1.83	7.	2.69	1.60	11
Meal pattern - nutrition and costs	1.33	1.15	18.	1.86	1.29	18
Diet order list	1.00	0.00	20.	1.43	1.09	20
Monitor cooking	1.75	1.54	13.	1.71	1.44	19
Labor requirement for hourly dollar volume (staffing chart)	1.83	1.59	11.5	2.87	1.92	7
Budget	1.92	1.26	10.	2.85	1.82	9

* Present Use

1. None
2. Aware
3. Perform with help
4. Do without assist.
5. Very proficient--perform skillfully and assist others

** Projected Use

1. Do not know
2. No planned use
3. Slight (may experiment with this)
4. Moderate
5. Extensive (will try to use whenever feasible)

Computer Application Competencies Needed in the Food Service Industry as Reported by Employers of VTAE Graduates

The VTAE districts with Food Service programs were requested by the Center for Vocational, Technical and Adult Education to send a survey (Appendix B) to employers of graduates from their programs to determine current utilization and projected future use of computer concepts in their businesses. Thirty-one (31) responses were received which was minimal for statistical purposes.

Table Two reveals the present use and projected future use of computer applications as reported by employers of VTAE graduates. "Financial information" that relates to employees ranked Number One in present use, while "inventory cost and control" ranked first in projected future use. From this table, it is apparent that the computer has not had a great impact on the Food Service industry as 10 of the computer applications were rated between "1" and "2" or not used to awareness. The column, Projected Future Use of Computer Applications," reveals that 10 applications had a mean of 3.00 or higher. The data definitely indicated a move toward more utilization of the computer. The impact of the computer in small operations may be slight for a while; however, the longer the Food Service industry utilizes the computer, the more the cost of providing services may be reduced.

Computer Application Competencies
Needed in the Food Service
Industry as Reported by Employers

Computer Applications	*Present Use			Projected Future Use		
	$\bar{X}$	S.D.	Rank	$\bar{X}$	S.D.	Rank
Inventory cost and control	2.96	1.64	2	4.09	1.23	1
Purchasing (ordering by computers)	1.74	1.14	13	3.00	1.35	10
Recipes (construct w/exact amounts of needed ingredients)	1.74	1.29	14	2.36	1.00	17
Pre-costs	1.73	1.39	15	2.14	1.32	19
Menu construction	2.13	1.49	9	2.87	1.55	13
Selling prices	2.52	1.63	4	3.00	1.52	11
Customer count	2.35	1.57	7	2.95	1.70	12
Forecasting	2.04	1.40	10	3.26	1.36	6
Meal records	2.61	1.59	3	3.04	1.58	9
Ordering (food, bar, and paper by computer)	1.71	1.10	16	2.62	1.43	16
Financial information (employee hours, payroll, labor time ctrls)	3.17	1.53	1	4.04	1.43	2
Financial information (days' receipts--food & beverage)	2.52	1.66	5	3.71	1.53	4
Production records	2.00	1.35	12	3.24	1.34	7
Communicate with computer (floor to kitchen via tape)	1.41	0.78	18	2.86	1.35	14
Percentage cost of various functns.	2.31	1.59	8	3.05	1.56	8
Meal pattern--nutrition and costs	1.55	1.01	17	2.81	1.50	15
Diet order list	1.33	0.73	20	2.25	1.16	18
Monitor cooking	1.37	0.96	19	1.94	1.26	20
Labor requirement for hourly dollar volume (staffing chart)	2.00	1.09	11	3.59	1.44	5
Budget	2.39	1.44	6	3.91	1.41	3

* Present Use
1 = None
2 = Aware
3 = Perform w/help
4 = Do w/o assistance
5 = Very proficient--perform skillfully and assist others

**Projected Use
1 = Do not know
2 = No planned use
3 = Slight (may experiment w/this in limited appl
4 = Moderate
5 = Extensive (will try to use whenever possible)

Food Service Competencies as Determined by the National and Wisconsin Restaurant Association

The National Restaurant Association and the Wisconsin Restaurant Association were contacted by telephone to determine if they had identified the computer competencies and applications for the Food Service industry. They indicated that such lists were not available and they would be interested in the results of this study.

The National Restaurant Association offered three seminars during 1981-82 on computers to their membership. However, the seminar was not developed based on the needs of the industry but by knowledgeable persons who knew the industry as well as the computer applications.

Information on Computers Available in Each of the VTAE Districts*

The Wisconsin Vocational Studies Center recently completed a survey of each of the VTAE districts to determine the computer hardware available in each district. Two districts did not respond to the survey. Twelve of the 14 districts responding have micro-computers. Seven districts have mini-computers and 12 districts have mainframes. Please note that Food Service is not listed as an instructional use area. That which follows were the survey results.

* Since this survey was done, several districts have added micro-computers; thus, this report may now be incomplete.

Micro Report

1. Area VTAE District #4 (Madison)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
5,000 - 10,000	4	Cromemco	(4) Programming & Mathematics	
15,000 - 20,000	2	Cromemco	(2) Word Processing & Programming (Satellite Schools)	

2. Blackhawk VTAE District (Janesville)

Does the district have micro computers? Yes No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use

3. Fox Valley VTAE District (Appleton)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	6	TRS-80	Business - D.P.	

4. Gateway VTAE District (Kenosha)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	12	(5) TRS-80	Data Processing Program	
" "		(1) IBM 7; (1) IBM 1401;	Computer Science	
		(1) Univac 9200	Computer Science	
" "		(3) Apple	General Ed., Math Science	
		(1) Heath Kit H-8	Fluid Power	

Micro Report

5. Lakeshore VTAE District (Cleveland)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	4	Pet Commodore	T&I Primary Electronics	
10,000 - 15,000	1	Tektronic	Drafting & Design; Machine Shop; Electronics	

6. Mid-State VTAE District (Wisconsin Rapids)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	6	Pet Commodore	Business	
" "	4	TRS-80 Level III	Business	
	4	Apple	Business	

7. Milwaukee Area VTAE District (Milwaukee)

Does the district have micro computers? Yes No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use

8. Moraine Park VTAE District (Fond du Lac)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	20	TRS-80	12 - Data Processing, Industrial Engineering & ABE lab	
" "		TRS-80	7 - Mobile (various areas)	
		Pet 4032	1 - Data Processing	

Micro Report

9. Nicolet VTAE District (Rhinelander)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	4	(3) TRS-80; (1) Apple	Business & Drafting	

10. North Central VTAE District (Wausau)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	10	TRS-80 Model I ATARI, Commodore	(6) Electronics (4) G.O.A.L.	

11. Northeast Wisconsin VTAE District (Green Bay)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	9	Apple II	(5) Math; (2) Accounting; (1) Nursing; (1) Mechanical Design	

12. Southwest Wisconsin VTAE District (Fennimore)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	4	Apple II	(4) Data Entry	

Micro Report

13. VTAE District #1 (Eau Claire)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	4	(1) Ohio Scientific; (3) Control Data-Plato	(1) ABE	(1) Library Service
5,000 - 10,000	1	Radio Shack	(2) SERVE; (1) Study Skills Center	

14. Waukesha County Area VTAE District (Pewaukee)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	1	Apple	(1) Learning Place	
5,000 - 10,000	1	TRS-80	(1) Electronics Technology	

15. Western Wisconsin VTAE District (La Crosse)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	5	Apple; TRS-80	(5) Data Processing	
5,000 - 10,000	1	TRS-80 II	(1) Data Processing	

16. Wisconsin Indianhead VTAE District (Shell Lake)

Does the district have micro computers? [Yes] No If yes, please complete the following:

Price Range	How Many	Brand Name(s)	No. and Area of Instructional Use	No. in Administrative Use
1,000 - 5,000	35	(6) TRS-80; (25) Apple II; (3) Apple III; (1) Ohio Scientific	(30) General Education	(5) Administrative procedures and files

Mini Report

1. Area VTAE District #4 (Madison)

Does the district have mini computers? Yes [No] If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.				

2. Blackhawk VTAE District (Janesville)

Does the district have mini computers? Yes No If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.				

3. Fox Valley VTAE District (Appleton)

Does the district have mini computers? [Yes] No If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a. IBM Series 1		EDX	100%	
b. System-6 (5 units)				(word processing) 100%

4. Gateway VTAE District (Kenosha)

Does the district have mini computers? [Yes] No If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a. (2) PDP II			(computer science) 100%	
b. (3) PDP 8E			(electronics, math, science) 100%	

Mini Report

5. Lakeshore VTAE District (Cleveland)

Does the district have mini computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

6. Mid-State VTAE District (Wisconsin Rapids)

Does the district have mini computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

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7. Milwaukee Area VTAE District (Milwaukee)

Does the district have mini computers? Yes No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					
b.					

8. Moraine Park VTAE District (Fond du Lac)

Does the district have mini computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM	System/34 5340	Disk Basic-Cobol-Fortran-RPGII	100%	

Mini Report

9. Nicolet VTAE District (Rhinelander)

Does the district have mini computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	NCR	8410	IRX		100%

10. North Central VTAE District (Wausau)

Does the district have mini computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

11. Northeast Wisconsin VTAE District (Green Bay)

Does the district have mini computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM	System 34		100%	

12. Southwest Wisconsin VTAE District (Fennimore)

Does the district have mini computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

Mini Report

13. VTAE District #1 (Eau Claire)

Does the district have mini computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	Burroughs	2700		40%	60%
b.	DEC	PDP 11/44		100%	

14. Waukesha County Area VTAE District (Pewuakee)

Does the district have mini computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

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15. Western Wisconsin VTAE District (Green Bay)

Does the district have mini computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

16. Wisconsin Indianhead VTAE District (Shell Lake)

Does the district have mini computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM System 34	E34	System 34 Disc OS	95%	5%

Main Frame Report

1. Area VTAE District #4 (Madison)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	Univac	90/70	VS/9	50%	50%

2. Blackhawk VTAE District (Janesville)

Does the district have main frame computers? Yes No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

3. Fox Valley VTAE District (Appleton)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM 370/138		DOS/VSE	50%	50%
b.	IBM 4341		UM/DOS/VSE	50%	50%

4. Gateway VTAE District (Kenosha)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	Burroughs	B4800			100%
b.					

Main Frame Report

5. Lakeshore VTAE District (Cleveland)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM 5340	E34	CCP	100%	
b.	IBM 5381				100%

6. Mid-State VTAE District (Wisconsin Rapids)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	NCR	V/8455	VRX	5%	95%

7. Milwaukee Area VTAE District (Milwaukee)

Does the district have main frame computers? Yes No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					
b.					

8. Moraine Park VTAE District (Fond du Lac)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM	System 38	Management Data Base		100%

Main Frame Report

9. Nicolet VTAE District (Rhinelander)

Does the district have main frame computers? Yes [No] If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.				

10. North Central VTAE District (Wausau)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a. IBM	4331 J01	DOS/VSE	40%	60%

11. Northeast Wisconsin VTAE District (Green Bay)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a. IBM	370		70%	30%

12. Southwest Wisconsin VTAE District (Fennimore)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a. Burroughs	B1955	MCPII	40%	60%

Main Frame Report

13. VTAE District #1 (Eau Claire)

Does the district have main frame computers? Yes [No] If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.					

14. Waukesha County Area VTAE District (Pewaukee)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	Burroughs	B6900	MCP	20%	80%
b.	IBM	4331	DOS/VSE	100%	

15. Western Wisconsin VATE District (La Crosse)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	Digital Equipment	20/60	TOPS-20	50%	50%

16. Wisconsin Indianhead VTAE District (Shell Lake)

Does the district have main frame computers? [Yes] No If yes, please complete the following:

	Product Name	Model Information	Operating System	Instructional Use	Administrative Use
a.	IBM System 38	Model 5	CPF	5%	95%

Survey Contact Persons

The following is a list of resource persons that were responsible for completing the VTAE Computer Survey.

1) Area VTAE District #4 (Madison)	John Robinson	Business Div. Chairperson	608-266-5230
2) Blackhawk VTAE District (Janesville)			
3) Fox Valley VTAE District (Appleton)	Shelley Foster	CAI Specialist	414-735-5620
4) Gateway VTAE District (Kenosha)	Patricia Holy	Business Ed. Coordinator	414-631-7305
5) Lakeshore VTAE District (Cleveland)	Fred Croor	Computer Specialist	414-693-8211
6) Mid-State VTAE District (Wisconsin Rapdis)	William Van Ornum	Instructional Services Administrator	715-423-5650
7) Milwaukee Area VTAE District (Milwaukee)			
8) Moraine Park VTAE District (Fond du Lac)	Bruce DeBoer	Staff Development Specialist	715-922-8611
9) Nicolet VTAE District (Rhinelander)	Dr. Robert I. Steger	Dean of Instruction	715-369-4416
10) North Central VTAE District (Wausau)	Charles Christianson	Assistant District Director	715-675-3331
11) Northeast Wisconsin VTAE District (Green Bay)	Bruce W. Koopika	Math Department	414-497-3125
12) Southwest Wisconsin VTAE District (Fennimore)	James O. Olds	Instructional Services Administrator	608-822-3262
13) VTAE District #1 (Eau Claire)	Roger Schaefer	Curriculum Supervisor	715-836-4977
14) Waukesha County Area VTAE District (Pewuakee)	Dr. James Catania	Computer Center Director	414-548-5205
15) Western Wisconsin VTAE District (LaCrosse)	Robert Franks	Business Div. Chairman	608-785-9168
16) Wisconsin Indiahead VTAE District (Shell Lake)	Richard Roder	Assistant Director - Instructional/Research Services	715-468-2815

Chapter IV

Computer Application Competencies
Food Service

This chapter will be subdivided into four parts: 1) Recommended Computer Application Competencies, 2) Tentative Course Outline, 3) List of Software or Software Sources, and 4) Conclusions and Recommendations.

Recommended computer application competencies for the VTAE Food Service Program are listed below. The rank and the level of competence to be considered are provided.

Computer Application Competency	Rank G* / Rank E**	Level of Competence
1. Financial information (labor time control, employee hours, payroll)	(G) 1-1* (E) 1-2**	Do without assistance
2. Inventory cost and control	(G) 4-2 (E) 2-1	Do without assistance
3. Financial information (days' receipts--food and beverage)	(G) 2-3 (E) 5-4	Do without assistance
4. Customer count	(G) 3-4 (E) 7-12	Perform with help
5. Meal records	(G) 5-5 (E) 3-9	Develop awareness
6. Forecasting	(G) 9-6 (E) 10-6	Develop awareness
7. Budget	(G) 10-9 (E) 6-3	Develop awareness
8. Selling prices	(G) 6-8 (E) 4-11	Develop awareness
9. Percentage cost of various functions	(G) 7-11 (E) 8-8	Develop awareness
10. Labor requirement for hourly dollar volume (Staffing chart)	(G) 11.5-7 (E) 11-5	Develop awareness
11. Purchasing (ordering by computer)	(G) 14.5-12 (E) 13-10	Develop awareness

Computer Application Competency	Rank G* / Rank E**	Level of Competence
12. Production records	(G) 8-15 (E) 12-7	?
13. Recipes	(G) 11.5-10 (E) 14-17	?
14. Communicate with computer (floor to kitchen via tape)	(G) 16-17 (E) 18-14	?
15. Ordering (food, bar and supplies by computer)	(G) 17-14 (E) 16-16	?
16. Menu construction	(G) 14.5-16 (E) 9-13	?
17. Monitor cooking	(G) 13-19 (E) 19-20	?
18. Meal pattern (nutrition & costs)	(G) 18-18 (E) 13-17	?
19. Pre-costs	(G) 19-15 (E) 15-19	?
20. Diet order list	(G) 20-20 (E) 20-18	?

* Rank G = Ranking by graduates; i.e., 1-1 is that the graduates ranked this application first in current use and ranked it first for future application or projected use.

** Rank E = Ranking by employers; i.e., 1-2 is that employers ranked this application first in current use and ranked it second for future application or projected use.

Computer Operation Competencies Needed by VTAE Food Service Graduates

1. Set up computer or terminal and connect to mainframe or power output
2. Use correct terminology (computer terminology)
3. Operate computer keyboard
4. Load the computer (floppy, hard disks, etc.)
5. Input data and/or information
6. Edit data

7. Copy data for storage
8. Retrieve stored data or information
9. Read and interpret a printout
10. Assist in or perform preventive maintenance (i.e., clean floppy disk head and vacuum)
11. Change ribbons and paper on printer
12. Assess equipment failure
13. Differentiate between hardware and software failures

Course Outline

Course Description

This course is for persons who have little, if any, knowledge of the computer. The purpose of the course is to provide an introduction and review of today's small computers with emphasis on what they are, their terminology, and what is available today to the Food Service industry. This course is to help you, the Food Service manager, employee, or owner become part of the computer-using world.

General Course Objectives

Upon completion of this course, the student will be able to:

1. Define mainframe, mini- and micro computers, and their components.
2. Define basic terminology used with computers.
3. Apply basic computer concepts and principles to the Food Service industry.
4. Use a software package, such as Visicalc, to establish a program that can be used to process Food Service data.
5. Use the computer to solve problems related to Food Service.
6. Identify future applications of computers in the Food Service industry.
7. Select and use commercial software in Food Service.

General Course Content

- Computer Technology

  - Short history
  - Micro-processor
  - Chips

- Classification of Computers

  - Personal computers
  - Hand-held pocket computers
  - Micro- and desktop-computers
  - Micro-mini-computers
  - Mini-computers
  - Mainframe computers (large)

- Applications

  - Control (inventory and cost)
  - Financial information (personnel)
  - Management information (analysis)
  - Word processing (typewriter vs computer)
  - Recordkeeping
  - Financial information (receipts--food and beverage)
  - Visicalc

- Small Computers to Time-shared Computers

  - Programming instruction
  - Expanded computer
  - Character coding and combination
  - Instruction decoding
  - Example program
  - Terminals
  - Assemblers
  - Operating system
  - Timesharing

- Computer Components

  - Hand-held computers
  - Small memory computers
  - Personal computers

    * Basic units
    * Peripherals
    * Software

- Criteria For Computer Use
  - Justification
    - Preparation
    - Needs and Objectives
    - Functional Description
    - Cost Surveys
    - Rough Cost Estimates
    - Net Benefits
    - Realization Of Net Benefits

- Evaluation

- Selection
  - Use of Detailed Specifications
  - Software
  - Vendors
  - Hardware
  - Best Combination
  - Price vs. Cost

- Purchasing
  - Contracts
  - Other Costs

- Successful Computer Use
  - Documentation
  - Backups
  - Software Registration
  - Testing New Software
  - Protection
  - Output Storage
  - New Program Evaluation
  - New Developments
  - Computer Capacities
  - More Terminals vs. More Computers

- Resources
  - Booklets
  - Periodicals
  - Directories
  - User Groups and Societies
  - Consultants

- Evaluation Of Course

The above outline could be covered to develop awareness in two days; however, one week would provide for a more in-depth study.

Mr. Kent Obert of the Advisory Committee for this project developed the following outline of instruction.

OUTLINE OF INSTRUCTION

DIVISION: Home Economics

AREA: Food Service Management

COURSE: Food Service Computers

COURSE NUMBER:

LENGTH OF COURSE: 12 weeks - 3 credits
2 hours lecture/week
2 hours lab/week

PREREQUISITE:

COURSE DESCRIPTION: In this course the student will develop an understanding of computer types and their applied uses in the food service industry.

EQUIPMENT AND SUPPLIES

School Furnishes

Laboratory
Computer Hardware and Software
Lab Handout Materials

Student Furnishes

Paper and Pencil

COURSE DESCRIPTION:

In this course the students will develop an understanding of computer types and their applied uses in the food service industry.

GENERAL COURSE OBJECTIVES:

When the student completes this course he will be able to:

1. Understand and define Mainframe, Mini, and Microcomputers.
2. Define basic terminology used with computers.
3. Apply computer principles to the food service industry.
4. Understand simple computer programming.
5. Use the computer to solve problems related to the food service industry.
6. Understand the future of computers in the food service industry.

GENERALIZATIONS	LEARNING EXPERIENCES	EVALUATION DEVICES
Three basic sizes of computers are used in the food service industry today.	Tour of facilities with different sizes. Lecture and class discussion on what each can do.	Written text.
Basic terminology for computers is essential before the student can understand how the computer functions.	The students will be given a list of terminology to define and hand in to the instructor.	Written report.
The computer has many applications to the food service industry.	The students will interview people in the food service industry who use computers to determine the many applications to the industry.	Oral and written report.
	Companies who sell computers to the food service industry will guest lecture to the students and demonstrate how their computer works.	
	Pamphlets from the computer companies will be discussed in class.	
Computer programming has become much easier to understand. With some instruction, most people can do simple programming.	Simple programming for the cafeteria will be done in a lab situation.	Programmed material.
	Mock situations for a restaurant will be given to the students to run on the computer.	Programmed material.
The computer can be used to solve many of the problems related to the food service facility giving the manager more time to spend in managing people.	Problems involving cash receipts, ordering, sales analysis, menu analysis, food costing, forecasting, payroll records, and ledgers will be given to the students to solve.	Programmed material.

GENERALIZATIONS	LEARNING EXPERIENCES	EVALUATION DEVICES
Computer uses will greatly expand in the next few years.	Research will be conducted as to what the food service industry wants computers to do in the future and whether the computer companies are researching the various areas.	Research Paper. Final Exam.

TOPICAL OUTLINE OF COURSE MATERIALS

UNIT TOPIC	LECTURE HOURS
I. Orientation	1
II. Basic Types of Computers	1
III. Terminology	2
IV. Computer Applications	5
V. Computer Programming	5
VI. Computer Problem Solving	8
VII. Computer Future	2

UNIT TOPIC	LAB HOURS
I. Tour Facilities with 3 Basic Types of Computers	8
II. Computer Applications	8
III. Computer Programming	
IV. Problem Solving	24

Software for Apple II Microcomputer

The following provide descriptions of the software for Apple II computers that may be appropriate for the food service programs. All the programs are for home use, however, providing students the opportunity to work with such programs will make them more computer competent. They will also feel more at ease with the computer.

See Appendices D and E for software sources.

TITLE: VISICALC
PUBLISHERS NAME: VISICORP
HARDWARE REQUIREMENTS: 40 column display printer recommended
DESCRIPTION: It takes the work out of working with numbers.
The VisiCalc program is the powerful electronic worksheet that replaces paper, pencils and calculator to help you solve number problems.
In just seconds, the VisiCalc program can calculate and displays the answers to involved problems you could have spent hours doing by hand.
The speed and versatility of the VisiCalc program make it easy for you to explore more alternatives. You can ask "What if?"...just change any number in your problem and instantly the program recalculates all the numbers and displays the new results. So you can readily analyze the impact of decisions before you make them.
Whether you're working with investments, cash flow, inventory, cost estimates, budgets, plans- nearly anything numerical, the VisiCalc program can help you work better, smarter, faster.
And while the VisiCalc program does a lot by itself, it can do even more for you when used with other Visi programs. For example, transfer your data to our VisiTrend/Plot program for forecasting, statistics, charts and graphs.
Ask your retail computer store salesperson for a demonstration of the VisiCalc program. See how easy it is to take the work out of working with numbers.
Step One: A blank worksheet.
Your VisiCalc worksheet is ready for virtually any number problem you have in any form you need, and it can handle as many problems as you want- just store one worksheet and start the next.
Step Two: Type in your problem.

VisiCalc's row and column format is simple to use. Simple and advanced math, plus business formulas are built in. An on screen editor allows you to rearrange numbers, words and formulas to fit your required printout.
Step Three: Play "What if...?"
Once your problem is on the worksheet, use VisiCalc's powerful Recalculation feature to analyze it. Change one number anywhere on your worksheet and instantly see the results. Sensitivity analysis, projections, estimates and hundreds of other decisions become clearer, more easily understood.
VisiCalc features:
-Wall sized worksheet 63 columns wide and 254 lines deep; usable space depends upon the computer's RAM memory size.
-Powerful Recalculation feature lets you change any number or formula and immediately all numbers affected by that change are recalculated and displayed.
-Replicate feature duplicates any entry- label, number or formula- anywhere else on the worksheet without you having to retype it over and over.
-Window feature splits the display into two parts or "windows", either horizontally or vertically, to view separate portions of the worksheet.
-Variable format sets any or every number to integer, general, dollars and cents, left or right justified, or histogram (simple graph) with just three keystrokes.
-Now with expanded commands and functions, including the Choose function, logical functions (True, False, And, Or, Not, If) and arithmetic comparison operators (>, <, =, >=, <=, <>). Apple II and IBM only.
-Automatically interchanges data with the VisiTrend/Plot, VisiPlot, VisiFile, and VisiTerm programs, and accepts data from the VisiSchedule and Desktop/Plan II programs. Apple II only.
-Automatically performs simple math functions (+, -, *, /) and built in functions (Sum, Average, Net Present Value, Count, Minimum, Maximum).
-Engineering math functions include a full set of trigonometric functions; scientific notation is automatic, eleven digit precision is standard.
-Prints full worksheets as well as lists of worksheet formats and formulas.
PRICE: $250.00

TITLE: VISISCHEDULE
PUBLISHERS NAME: VISICORP
HARDWARE REQUIREMENTS: printer
DESCRIPTION: It makes short work of scheduling projects and estimating costs.
The VisiSchedule program is a powerful project planner that gives you both the overview and the details you need to control projects, meet deadlines, level resources, and beat cost targets. It instantly shows you skill levels, costs and the critical path among your project's tasks. It allocates all costs, specifies earliest and latest start dates, slack times, holidays, prerequisites and deadlines for each task.
The VisiSchedule program also produces comprehensive summaries, calendar time charts, milestone and other reports.
The speed, versatility and interactive display of the VisiSchedule program make it easy to develop your project as you enter data, and to investigate trade offs between manpower, costs, and time. You can ask "what if?"...add, move, slip or change any task, skill level or cost, and the program instantly displays the impact. This feature also makes it a snap to keep schedules and costs current.
Another important benefit is the ease of transferring data to VisiCorp's other Visi programs. For example, transfer your project's cost data to our VisiTrend/Plot program top analyze the data and plot the results.
Ask your retail computer store salesperson for a demonstration of the VisiSchedule program. You'll see how easy it is to make short work of planning and budgeting projects.
VISISCHEDULE FEATURES:
* Automatically calculates and displays the critical path, identifying tasks that cannot be delayed without affecting the entire project.
* Easy to learn - User Guidance System leads you step-by-step from start to finish, easy to use - fewest possible keystrokes required.
* Interactive display instantly shows the impact of new data or changes in data, allowing you to ask "What if?" and investigate trade-offs.
* Calculates, displays and prints out nine skill categories and their costs per task, total manpower and direct costs, manpower levels, and the start, completion and deadline dates for each task.
* Allocates up to nine skill and cost categories per task, and automatically adjusts the project schedule to level those resources.
* Slip any task and all dependent future tasks are automatically adjusted. In addition, an entire project can also be automatically aligned to a different date.
* Comprehensive reports displayed or printed out on your entire project or any part of it sorted in the order you need.
SPECIFICATIONS:
* Entire project is contained on single disk.
* Task per project: 168 with Language System or RAM Card (64K); 58 without Language System or RAM Card (48K).
* Time units: day or weeks.
* Holidays: up to 24 days plus 24 weeks off when using day units, up to 24 weeks off when using week units.
* Task prerequisites: up to nine per task.
* Skill categories and costs: up to nine per task.
* Task duration: up to 999 time units.
* Costs: whole, thousand or million currency units.
* Printed report width: 79 to 168 characters.
PRICE: $300.00

TITLE: APPLE MENU COOKBOOK
PUBLISHERS NAME: PROGRESSIVE
DESCRIPTION: This is an index-accessed data storage/retrieval program. Recipes (or menus) are stored in any of 61 files. On entering a file, all titles are displayed and the user is asked to select where he would like to enter. A simple hit of the space bar or 1 or 2 will cause the file to be paged forward or in reverse.
Data is entered in 40 character lines with no limit to the number of line per entry. Easy editing of files is a basic part of the program as well as overall erase commands.
Apple Menu Cookbook is formulated after the New York Times cook book and appendix containing conversion tables, calorie references, and many other useful features are included.
PRICE: $19.95

TITLE: THE ACCOUNTANT
PUBLISHERS NAME: DECISION SUPPORT SOFTWARE
DESCRIPTION: Less than half the financial transactions necessary to adequately manage your resources and plan your tax strategy can be accomodate with single entry systems.
How can you use a double entry system without a refresher course in accounting?
You can't, if you use software that simply automates the way people do things by hand,...but, with The ACCOUNTANT, by Decision Support Software, the power of your computer is harnessed to offer you the advantages of an automated double entry system even if you don't know a debit from a credit!
The ACCOUNTANT includes these user oriented features:
* Menu driven operations
* Comprehensive prompting
* User defined account names
* User defined code names
* Reference to accounts and codes by name or number
* Ability to cancel operations or queries when desired
* Ad hoc queries
The ACCOUNTANT is a decision support tool that provides an individual or business with timely, accurate data to plan, monitor and control their finances. the detailed records contained in The ACCOUNTANT's data base will enable you to itemize each and every legitimate tax deduction. DBCALC, a VisiCalc interface, retrieves data from The ACCOUNTANT's data base and creates a VisiCalc file of actual and projected financial data which can be used for financial simulations and tax computations.
PRICE: $129.00

TITLE: VERSACALC 16
PUBLISHERS NAME: AURORA SYSTEMS
DESCRIPTION: This package has three different functions:
- A Tutorial that shows you how to use a number of undo Visicalc features
- A set of Utilities that make it easy to write auto-e Visicalc programs
- A set of Applesoft programs that operate on your Visic to do things that have always wished you could do with

A programmed instruction oriented training device t within Visicalc. It explains a number of techniques tha documented in your Visicalc manual and then gives opportunity to experiment with those techniques by ente into Visicalc models that use the techniques. T Tutorials include:
*A Tutorial on Screen Overlay. This is what happens load on Visicalc file when another is already on the screen. This technique can be used creatively to overcome memory limitations, revise sheets already stored on file, and in many other ways.
* A Tutorial on Conditional Testing. Many people think the 3.2 version of Visicalc does not support Conditional Testing but three commands allow Conditional Testing. The 3.3 version adds a number of others. A number of examples of how these can be applied are given.
* A Tutorial on Auto executing Visicalc programs. it is possible to enter a string of Visicalc commands (even the ones that execute as you key them in) and save them to disk under a file name. This string of commands can be executed with as few as four key strokes whenever you want. We have used this technique to create menu driven Visicalc programs, roll current month information into YTD fields, insert windows and move the cursor, provide the user with instructions, and more.

The Versacalc File Manager is a set of Applesoft programs that allow you to do those things you've always wanted to do with the Visicalc that are not supported in the program. The Versacalc File Manager:
*Allows you to sort your Visicalc files in ascending or descending order on label, value, or formula fields. The sort typically takes 5-10 minutes and if formulas are moved they are adjusted so they continue to work properly.
* Allows you to create a Visicalc program called Catalog. Anytime you want to catalog your disk from within Visicalc you type/SL CATALOG.
* Allows you to step through your Visicalc disks one file at a time and Lock, Unlock, Print the Commands, or Delete them.
PRICE:

BEST COPY AVAILABLE

TITLE: MENU PLANNER
PUBLISHERS NAME: HOMEWARE
DESCRIPTION: You store your own favorite breakfast, lunch and dinner menus. Menu Planner will assemble menus for up to two weeks for one, two or three meals each day then prepare a shopping list of all items you need to prepare those menus plus a list of miscellaneous items. All you do is take the printout and head for the grocery store.
PRICE: $29.00

TITLE: NUTRI-PACK
PUBLISHERS NAME: MICRO-COMP INCORPORATED
DESCRIPTION: Nutri-Pack for the Apple II is a series of programs and a data base designed to evaluate the nutritional quality of a daily diet. It contains information on the caloric, fat and protein content and the levels of eight vitamins and minerals in the 600 listed foods.
PRICE: $39.95

TITLE: CALORIE COUNTER
PUBLISHERS NAME: VIDEO WORD
DESCRIPTION: A program for the kitchen which gives you the calories of a food you input. Good program for weight watchers.
PRICE: Cassette $25.00

TITLE: COMPARATIVE BUYING
PUBLISHERS NAME: INTERPRETIVE EDUCATION
DESCRIPTION: This informative consumer program explains the concepts of comparative buying. It provides the learner with interactive experiences in determining items to purchase based on a number of variables.
Disk subjects: (1) concepts of comparative buying
(2) decisions before buying
(3) effective sales buying
(4) cash buying versus credit buying
PRICE: $165.00 4 disk set

TITLE: DISK-O-CHECK
PUBLISHERS NAME: HIGH TECHNOLOGY SOFTWARE PRODUCTS, INC.
HARDWARE REQUIREMENTS: 1 disk drive
DESCRIPTION: A personal accountant to manage your home or small business finances. Hassle free checkbook balancing is here! Disk-O-Check lets you record over 2000 checks and deposits on diskette where they can be easily accessed. Disk-O-Check can even handle multiple accounts.
Keep records straight and avoid tax filing headaches.
It's easy to see where your money goes and how you're spending it. Disk-O-Check categorizes your checks by expense classification, providing you with a detailed report summarizing all the checks and the total amount spent for each separate category...gasoline, car maintenance, food, utilities, entertainment, etc. This allows you to budget more effectively.
It's easy to use!
You get automatic checknumbering and the current date with a single keystroke as you enter checks. Want to know what checks you've written on a certain day of a particular month? Search for a particular check number, or amount, or check description. Disk-O-Check has the answers.
PRICE: $100.00

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TITLE: COMPUTER CAJUN CUISINE
PUBLISHERS NAME: TECHNICAL SOFTWARE
DESCRIPTION: Program computes exact amounts of all ingredients necessary for any number of servings of eight Louisiana soup and gumbo recipes.
PRICE: Cassette; $25.00
Disk; $30.00

TITLE: FAMILY BUDGET ANALYSIS
PUBLISHERS NAME: RE/INTERNATIONAL SYSTEMS CORPORATION
DESCRIPTION: Assimilates information on monthly income and expenditures, and returns a logical formatted record of the monthly budget, along with recommendations for money management based on the national averages.
PRICE: $150.00

TITLE: FAMILY FINANCIAL PLANNER
PUBLISHERS NAME: SOFT ONE
DESCRIPTION: This program consists of six programs which may be used to compute such things as mortgage payments, college fund savings programs, investment programs, etc. It is an interactive program which asks simple questions and does highly complex calculations to give simple answers. It can replace a whole library of compound interest tables.
PRICE: Cassette $23.50
Diskette $26.50

TITLE: MENU GENERATOR
PUBLISHERS NAME: CRANE SOFTWARE, INC.
DESCRIPTION: YOU CAN DEVELOP A COMPUTER MENU SYSTEM AND SAVE TIME OPERATING YOUR APPLE
Use MENU GENERATOR to create custom computer menus and link them together like those shown here. Your menu system will access any program or operation in a matter of seconds.
MENU GENERATOR automatically writes computer menu programs in BASIC from your inputs on one screen form. The menus can run other programs, boot disks and execute user supplied commands or functions. Most menus can be created in less than ten minutes, without programming. Editing is even faster using MENU GENERATOR's data base capabilities. A formatted printout describes all menus in your system.
MENU GENERATOR requires a 48K Apple II Plus, DOS 3.3 and optional printer.
PRICE: $39.95

TITLE: RECIPE HANDLER II
PUBLISHERS NAME: SOFT TOUCH
DESCRIPTION: A unique program set which sorts, files, and stores cooking recipes. More than a recipe file, R.H. will expand or contract your ingredient quantities to accommodate an increase or decrease in the number of servings. Another useful feature of R.H. is the shopping list. Each ingredient and the quantity needed is printed by your printer for recipes you need to shop for. No more shortages or last minute trips to the store. Meal planning is a breeze. You code each recipe (e.g. ENTREE, SOUP, DESSERT, SALAD, MEXICAN, FRENCH, etc.) to any category/type you want. Sorted only by your imagination.
Besides home recipes, R.H. has been used by bakers, restaurants, caterers, cooking/home economics classes, schools, and gourmets around the world. RECIPE HANDLER can be used wherever formulas or recipes are used.
SPECIFICATIONS:
Capacity- Up to 1,458 bytes total or--34 ingredients, 275 words in the instructions. HUGE RECIPE STORAGE!! OVER 1,000. Additional disks can be initialized as you need them.
Functions- Included are--listing titles, sorting by code, editing, expand/contract, print shopping list and/or instructions.
PRICE: $39.95

BEST COPY AVAILABLE

TITLE: DIET ANALYSIS
PUBLISHERS NAME: APPLE COMPUTER INC.
DESCRIPTION: Helps you analyse your diet for carbohydrates, calories, and protein, as well as for 21 vitamins, minerals, and other components, such as saturated fats and fiber. The program produces daily analyses, weekly averages, and monthly comparisons showing three different data breakdowns. It lets you monitor your intake of specific elements, or keep track of your overall diet. It also compares your diet with USDA recommended daily requirements for your age and sex. It allows you to shelve your nutrition charts, calorie tables, and vitamin schedules- and monitor your diet easily and accurately. Automatically analyzes your diet for calories, carbohydrates, protein, cholesterol, saturated fats, unsaturated fats, total fats, fiber, iron, calcium, magnesium, phosphorus, sodium, potassium, folic acid, niacin, panthothenic acid, and vitamins A, B1, B2, B12, C, and E. Doctors may find Diet Analysis useful for quickly evaluating patients' dietary deficiencies.
The food entry procedures are thorough and flexible. You can make your entries at your convenience, once, once a day, or after each meal. You can use the Quick Entry option to set up standard meal menus for some or all of your daily meals. With the Recipe routine, you can input foods which are not in the program's data base.
The See Data routines let you analyse your diet in several different ways. You can study nutritional breakdowns for the past 30 days of data entry, either one day at a time or in groups of consecutive days. The program automatically calculates averages for each 15-day period, and stores the data for your inspection. You can also calculate averages for any time period you choose, and display up to five averages at once.
A special weight analysis routine calculates your ideal weight on the basis of your height, sex, and frame size. The weight summary will then itemize your changing weight, caloric intake, and level of activity over any time period you choose.
PRICE: $45.00

TITLE: PERSONAL FINANCE MANAGER
PUBLISHERS NAME: APPLE COMPUTER CO.
DESCRIPTION: The PERSONAL FINANCE MANAGER is an easy-to-use family budget management program that puts important financial information at your fingertips. It helps you keep better records of expenditures, analyze your spending patterns, validate checkbook statements, and maintain your tax records. On a single disk, you can store a full year's worth of family financial records - including detailed information on all check transactions, deposits, cash and credit card expenditures. You can also classify expenditures as tax deductible, consolidate the information for easier itemization when filing taxes, and "roll over" automatically to the next year.
This program can be used to:
- define or modify up to 24 budget categories so you can compare spending habits with budget limits you've set
- define or modify as many as 12 credit card expenditure accounts so you know instantaneously just how much money you owe
- provides monthly and year-to-date summaries of expenditures so you can tell at a moments glance how realistic your budget is
- plots budget category activity, providing quick graphic comparisons of dollar amounts
- lets you print out information at the touch of a key so you can take your financial records to the bank, the IRS, or wherever they're needed.
By using the Enter Data option, you can add or modify financial transactions - such as cash and credit card expenditures - quickly and easily. The Data Search/Sort option provides simple listings of monthly budget entries you specify, such as all tax-deductible expenditures for any particular quarter. This is extremely useful when you file taxes, for example, because it allows you to isolate the information you need quickly.
Reconcile Checkbook, lets you account for all checking account transactions that appear on your bank's monthly statement. The program will indicate the amount of any discrepancy it detects, helping you determine the source of the error.
PRICE: Disk, $75.00

BEST COPY AVAILABLE

TITLE: THE MENU II
PUBLISHERS NAME: C & H VIDEO
DESCRIPTION: Plan meals with ease with the all new updated MENU II from C&H. More storage, more information per recipe and other new features in the new version.
* 6 meal classifications
* 3 special counters (calories, sodium, etc.)
* 24 ingredients per recipe
* write menus for 2 week periods
* produce printed shopping list
* add, change or delete any recipe
* 24 lines of comments
* feed up to 1,295 people per recipe
PRICE: $39.95

TITLE: GROCERY LIST
PUBLISHERS NAME: COMPUTERIZED MANAGEMENT SYSTEMS
HARDWARE REQUIREMENTS: Printer
DESCRIPTION: A genuinely useful household program designed to organize supermarket shipping.
OBJECTIVE: Shoppers will instantly be able to use this easy, self-prompting program. In a few minutes they will be able to scan a file of up to 500 user defined itself, choosing those needed with a single key stroke. The computer will then print a list organized by table, section number, or department, such as "DARY", "DELI", or other four letter code.
MASTER FILE EDITOR: Included so you may add to, delete, or change the Master File to suit your individual needs.
MASTER FILE: Included, a list of over 100 grocery and associated items to set you off to a fast start.
PRICE: $24.95

TITLE: HOME ACCOUNTANT
PUBLISHERS NAME: CONTINENTAL SOFTWARE
DESCRIPTION:
The fact is, Home Accountant is one of those rare programs that virtually everybody can profit from using. It's powerful enough to handle even the most complicated family budget- yet it's so easy to use that one quick trip through the manual may be all you'll ever need.
With Home Accountant you can track up to 100 budget categories, 5 different checking accounts, and all the credit cards you can carry. Just press a few keys and watch the program print your checks, new worth and other financial statements. And when you see the full-color graphs of actual vs. budgeted expenses, trend line analyses, etc., you'll know you bought the best.

TITLE: RECIPE FILE
PUBLISHERS NAME: HOMEWARE
DESCRIPTION: File all your recipes away then recall them anytime you wish. Recipe File also takes over that irksome task of converting a recipe to feed a larger or smaller group than originally intended. Just tell the computer how many people you want to feed and Recipe will automatically alter the amounts to feed any number. Information is displayed on either CRT or printer.
PRICE: $20.00

BEST COPY AVAILABLE

TITLE: MAGAZINE FILE
PUBLISHERS NAME: SYNERGISTIC SOFTWARE
DESCRIPTION: The need to keep track of the many articles, programs, new products, hardware advertisements, software advertisements, etc. in magazines is great.
Here is the answer. A magazine article filing program done in 6 modules to keep memory requirement low. A 16K system with the Applesoft II firmware card can run these programs.
MAG FILE CREATE - The first module creates a master file and a subfile by subject name and code order. There are enough characters allowed on the subject line for remarks or a subject.

MAG FILE SEARCH - This module searches the master or the subfile by users choice of code number or subject. Subjects are searched for and displayed on the basis of their left four characters. For example the subjects entitled: SORTING, SORTING PROGRAM, SORTS BY LAST NAME or SORTS (NUMBERS) will all be displayed with the data necessary to find the article.

MAG FILE DUMP - This module dumps all data to the screen with the corresponding record number 18 lines at a time. This allows user to see if data is present and correct.

MAG FILE CORRECT - In addition to the correction routine in the CREATE module another correction module is provided for later updating of a record or deletion of a record or placing different data in a record.

MAG FILE TRANSFER - Allows the user with one drive to create a backup copy of the programs plus the data files. This module is provided for later updating of a record or deletion of a record or placing different data in a record.

MAG FILES is done in Applesoft II using easy to use GET statements so that RETURN is not used on non-essential input.

Plus all the excellent screen formatting, error trapping and user orientation you have come to expect from Southeastern Software.
PRICE: Diskette $18.00

TITLE: PFS (PERSONAL FILING SYSTEM)
PUBLISHERS NAME: SOFTWARE PUBLISHING CORPORATION
DESCRIPTION: Using the concept of designing a form on the screen, PFS lets you create a file of information on any subject you wish without programming. You can catalog your stereo record collection, 35mm slides, magazine articles, daily expenses, or your club's membership list. Using PFS at work you can make better decisions by creating files on inventory, customers, or orders and accessing them in seconds.
To use PFS you simply design a form on the screen by typing the names of the items you want to store information about. Once the form is created you tab from item to item and fill in the information. This can be a single piece of data or several pages of text. Up to 1000 forms can be stored on a diskette. Looking up information is just as easy. PFS can search for a number, a single data item, or a word within a page of text. All forms that match are displayed on the screen. You can browse through each one and change, delete, expand, or print it. PFS even has a print formatter that lets you create mailing labels. PFS software is different. It is not a specialized application package or a complex programmer oriented data base manager. It is a personal filing system that lets you communicate with the computer using meaningful everyday concepts to rapidly create files on any subject matter you require.
PRICE: $99.00

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Conclusions and Recommendations

Conclusions

The following conclusions are provided for consideration:

1. The highest ranked computer application competencies were:
   a. Financial information relating to personnel.
   b. Inventory and cost control.
   c. Financial information - day's receipts.
2. Employers and Food Service graduates were in agreement on the highest ranked Food Service application competencies.
3. Computer hardware systems were affordable for education but quality software was not available. Food Service software for the micro-computer was primarily for home use.
4. A Food Service computer system including software had a base price of $2,700.

Recommendations

The following recommendations are submitted for consideration:

1. Food Service programs should provide a course or infuse Food Service computer applications into their programs.
2. A VTAE institute should consider hiring a programmer who would program for those institutions that have Food Service programs. This could be accomplished by paying only for usable programs developed. Or, WBVTAE should consider funding a project to employ a person to develop this software.
3. Any programs (software) developed should be appropriate for the Food Service establishments in Wisconsin.
4. The use of Visicalc on a data base software program in developing a software package for personnel information should be explored.
5. Sharing software will be much more effective if each district has the same hardware. Food Service instructors should develop a set of computer hardware specifications for their area.

Appendix A

Glossary of Computer Terms

You can't read the newspaper through or spend an evening in front of the TV, let alone keep up with developments in education without knowing the words associated with computer use. Yesterday's mailing list or bibliography or survey response has become today's "data base." Computer-related terms like "input" and "output" are spilling over into everyday language. To make it easier to read about computers, here is a brief compendium of terms in common use. The glossary is closely adapted from three sources, which are listed at the end.

Access - The act of obtaining data stored in the computer system.

Backup - A copy of programs or data that is kept in case the original is accidentally destroyed.

BASIC - (Beginner's All-purpose Symbolic Instruction Code) A programming language frequently used with microcomputers.

Binary - Having two possible states, such as "0" or "1," that correspond to the "on" and "off" states of computer circuitry.

Bit - A binary digit; the smallest unit of information a computer uses.

Byte - A group of eight bits.

CAI - (Computer-Assisted Instruction) The use of computer terminals and courseware in instruction.

Chip - A small rectangle of semiconductor material that contains micro-miniaturized electronic circuits.

COBOL - (COmmon Business Oriented Language) A programming language used in business applications.

Computer - A device that can store information, manipulate data and solve problems.

Courseware - Computerized instructional materials used for computer-assisted instruction.

CPU - (Central Processing Unit) The section of the computer that controls its overall operation. The CPU carries out, or processes, instruction given to the computer.

CRT - (Cathode Ray Tube) A video screen used to display data and graphics.

Data Base - A collection of information that can be stored in the computer.

Data entry device - Equipment that will convert data in human-readable form into a code the computer can understand.

Data processing - Operations performed on data to achieve a particular objective.

Debug - To locate, remove and correct mistakes in a computer program.

Decode - To convert data from a coded form into a human-readable form.

Disc or Disk - See magnetic disk.

Diskette - A thin, flexible platter, similar to a 45 rpm record, coated with magnetic material and used to store information; a floppy disk.

EDP - (Electronic Data Processing) The processing of data mainly by electronic digital computers.

Encode - To convert data in a human-readable form into a code the computer can understand.

File - A block of information that, when combined with others, makes up a group of related data on a disk; similar to files as used in office work.

Firmware - Software that has effectively been made permanent by storing it in hardware.

Floppy disk - See diskette.

FORTRAN (FORmula TRANslator) - A programming language used in scientific and mathematical work.

Hard copy - A printout on paper.

Hardware - The physical equipment, mechanical or electronic, of the computer system.

Input - To transfer data from an input device (such as a terminal or card reader) to the computer's memory.

I/O (Input/Output) - The passage of information into or out of the computer.

K - 1,024 bytes of information that can be stored in the computer system. A computer that has 16K memory as a capacity of 16 times 1,024 bytes of memory.

Magnetic card - A magnetically coated card on which data can be recorded.

Magnetic disk - A flat, circular plate on which data can be recorded.

Magnetic Tape - A tape on which data can be recorded.

Mainframe - The central processing unit of the larger type of computers.

Main Storage - The main memory of the computer; stores data that are being processed or used currently.

Memory - Elements in the computer that retain instructions or data used by the central processing unit (CPU).

Microcomputer - A type of computer that is smaller than both the minicomputer and the mainframe computer.

Microprocessor - A central processing unit on a chip or a computer system designed around such a device.

Minicomputer - A type of computer that is larger than a microcomputer and smaller than a mainframe computer.

Network - A system of interconnected computer systems; uses terminals for communications.

OCR - (Optical Character Recognition) The use of scanners to read typed or handprinted marks on paper, such as standardized test forms.

Off-line - Not connected to the computer.

On-line - Connected to the computer.

Output - Data transferred from the computer memory to a storage or output device (such as a printer).

Pascal - A computer language used in business and scientific work named after the French mathematician Blaise Pascal.

Peripheral - An external or remote device in a computer system. Input/output devices, such as keyborads, printers, magnetic tapes and magnetic disks, are peripherals.

Program - A set of instructions, arranged in sequential order, telling the computer to do a specific task or to solve a problem.

Remote Terminal - A terminal that may be miles away and connected by telephone or other communication lines.

Semiconductor - Material chemically treated to have electronic characteristics.

Soft Copy - Output that is not in printed form, such as a display on a video screen or audible output.

Terminal - A device through which data may be entered or received, usually equipped with a keyborad and a display device.

VDT - (Video Display Terminal) See CRT

Resources

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Webster, Tony. Webster's Microcomputer Buyer's Guide, Los Angeles: Computer Reference Guide, 1981.

Computer Application Competencies Needed in the Food Service Industry
(Employer Form)

Directions: Please read each of the statements listed below and respond on the scales provided to the right. The first scale indicates your present use as it relates to the computer application given in the statement. In the second column, respond as to the projected future use or involvement with the application during the next three to five years.

Present Use

1 = None
2 = Aware
3 = Perform with help
4 = Do without assistance
5 = Very proficient - perform skillfully and assist others

1 = Do not know
2 = No planned use
3 = Slight (may experiment with this in limited application)
4 = Moderate
5 = Extensive (will try to use whenever feasible)

Computer Applications	Present Use					Projected Future Use				
	1	2	3	4	5	1	2	3	4	5
• Overall use of the computer in your organization.										
1-2. Inventory cost and control.	1	2	3	4	5	1	2	3	4	5
3-4. Purchasing (ordering by computer) .	1	2	3	4	5	1	2	3	4	5
5-6. Recipes (construct w/exact amounts of needed ingredients).	1	2	3	4	5	1	2	3	4	5
7-8. Pre-costs	1	2	3	4	5	1	2	3	4	5
9-10. Menu construction	1	2	3	4	5	1	2	3	4	5
11-12. Selling prices.	1	2	3	4	5	1	2	3	4	5
13-14. Customer count.	1	2	3	4	5	1	2	3	4	5
15-16. Forecasting	1	2	3	4	5	1	2	3	4	5
17-18. Meal records.	1	2	3	4	5	1	2	3	4	5
19-20. Ordering (food, bar & paper by computer)	1	2	3	4	5	1	2	3	4	5
21-22. Financial information (employee hours, payroll, labor time control). . . .	1	2	3	4	5	1	2	3	4	5

-over please-

Computer Applications	Present Use					Projected Future Use				
	1	2	3	4	5	1	2	3	4	5
23-24. Financial information (day's receipts--food and beverage)	1	2	3	4	5	1	2	3	4	5
25-26. Production records.	1	2	3	4	5	1	2	3	4	5
27-28. Communicate with computer (floor to kitchen via tape)	1	2	3	4	5	1	2	3	4	5
29-30. Percentage cost of various functions	1	2	3	4	5	1	2	3	4	5
31-32. Meal pattern - nutrition and costs. .	1	2	3	4	5	1	2	3	4	5
33-34. Diet order list	1	2	3	4	5	1	2	3	4	5
35-36. Monitor cooking	1	2	3	4	5	1	2	3	4	5
37-38. Labor requirement for hourly dollar volume (staffing chart)	1	2	3	4	5	1	2	3	4	5
39-40. Budget.	1	2	3	4	5	1	2	3	4	5
41-42. Other_____	1	2	3	4	5	1	2	3	4	5

Thank you for responding.

Please return to: Harold Halfin
Co-Director/CVTAE
226 Applied Arts Bldg.
UW-Stout
Menomonie, WI 54751

UNIVERSITY OF WISCONSIN
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MENOMONIE WISCONSIN 54751

April 19, 1982

Dear Graduate:

You have been identified as a graduate of the Waukesha County Technical Institute's Food Service Program. We are trying to determine what computer applications should be taught to future food service students.

Therefore, we are asking you to repond to the enclosed survey (blue). In addition, we are asking you to have your immediate supervisor respond on the green survey form.

Your responses will assist us in keeping up to date the food service programs in the technical institutes of Wisconsin. In addition, your responses will be held in strict confidence. No names will be associated with the responses. Envelopes are enclosed to return the completed survey. Please return in two weeks after receipt. Thank you for your assistance.

Sincerely,

Harold Halfin
Co-Director/Center for Vocational,
Technical and Adult Education

jl

Enclosures

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3/26/82

Computer Application Competencies Needed in the Food Service Industry
(Employed VTAE Graduates)

Directions: Please read each of the statements listed below and respond on the scales provided to the right. The first scale indicates your present use as it relates to the computer application given in the statement. In the second column, respond as to the projected future use or involvement with the application during the next three to five years.

Present Use

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2 = Aware
3 = Perform with help
4 = Do without assistance
5 = Very proficient - perform skillfully and assist others

1 = Do not know
2 = No planned use
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Computer Applications	Present Use					Projected Future Use				
	1	2	3	4	5	1	2	3	4	5
• Overall use of the computer in your organization.										
1-2. Inventory cost and control.	1	2	3	4	5	1	2	3	4	5
3-4. Purchasing (ordering by computer) .	1	2	3	4	5	1	2	3	4	5
5-6. Recipes (construct w/exact amounts of needed ingredients).	1	2	3	4	5	1	2	3	4	5
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21-22. Financial information (employee hours, payroll, labor time control). . . .	1	2	3	4	5	1	2	3	4	5

-over please-

Computer Applications	Present Use					Projected Future Use				
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39-40. Budget.	1	2	3	4	5	1	2	3	4	5
41-42. Other_____	1	2	3	4	5	1	2	3	4	5

Thank you for responding.

Please return to: Harold Halfin
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226 Applied Arts Bldg.
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Menomonie, WI 54751

The Problem of Software

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by Wilma Jean Alexander

When a school purchases the necessary hardware to begin integrating the microcomputer into the vocational curriculum, the teacher's responsibility has just started—there is the question of software. Because it takes time for teachers to become skilled producers of their own software, they must usually rely on available programs in the early stages of implementation. But programs to use in vocational classes are not always easy to find, and the quality of much of the software is less than desirable.

The most important factor to be considered when evaluating software is compatability with your computer system. The courseware must fit your computer model and memory requirements and the peripherals available. Even though software may meet your specifications for content, if it is not written for the specific make, model, memory capacity and disk-cassette system you want to use it with, it probably will not run without modifications and in some instances will never run.

Additional factors to consider include the instructional value of graphics, sound and color, ease of use, effective frame display and comprehensive documentation. Check also to determine if branching occurs for appropriate levels of difficulty and if prerequisite skills or courses are needed. As with any teaching aids, of course, content should have clear instructional values, be accurate, be free of stereotypes, express positive human values where applicable and be appropriate for the targeted audience.

Several states have funded projects through which software is being developed and distributed at minimal costs. To acquire a listing of the programs developed through the Minnesota Education Computing Consortium, write MECC, 2520 Broadway Drive, Lauderdale, MN 55113. (See the article about MECC in this issue.)

The state of Illinois is funding a project to develop programs applicable directly to the vocational curriculum. Called "Microcomputer Skills: Curriculum Development and Dissemination," the project is being administered through the Department of Adult, Vocational and Technical Education, Illinois State Board of Education.

The programs were recommended and developed in consultation with advisory committees and content specialists. Educators and programmers worked together to develop software which is realistic and contributes to the achievement of the objectives in the vocational areas of agriculture, business and office, home economics, and industrial education.

In the agriculture education area, programs have been developed, for example, in livestock budgeting, income possibilities, machinery decisions, soil loss equation, grain marketing, farm bookkeeping system, and greenhouse heating and cooling. For home economics education, programs include consumer math, home owner's capital gains, personal budget program, nutrition analysis and stain removal analysis.

Individual programs are not distributed; software is available only by subject area. To order, schools must indicate the computer system for which they want the programs (TRS-80 Model I, Level II; Apple II Plus 3.3; TRS-80 Model III; or Commodore Pet). Documentation accompanies the programs. Price quotations and order blanks may be obtained from Curriculum Publications Clearinghouse, Western Illinois University, 47 Horrabin Hall, Macomb, IL 61455.

Published evaluations of selected software are available from several sources, such as the following:

80 Software Critique
P.O. Box 154
Waukegan, IL 60085

Microcomputers in Education
Quest, Inc.
5 Chapel Hill Dr.
Fairfield, CT 06432

MICROSIFT
Northwest Regional Educational Laboratory
300 S.W. Sixth St.
Portland, OR 97204

Peelings II
P.O. Box 188
Las Cruces, NM 88001

School Microware Reviews
(summer 1981)
Dresden Associates
P.O. Box 246
Dresden, ME 04342

Software Review
Microform Review, Inc.
520 Riverside Ave.
Westport, CT 06880

Even though reviews can be valuable, it may also be advantageous to see a demonstration of the program. Reviewers may have different objectives from yours, so it is advisable, when possible, to do your own review. An alternative to the review would be to acquire the documentation. The documentation, if well written, will describe exactly what the program does and how it performs.

You can identify software applicable to your needs through source books, catalogs, and advertisements in microcomputer magazines. The following is a list of publications which contain names and sources of programs. Several of the periodicals listed are available on newsstands.

The Apple II Blue Book
Summer/Fall 1981 ($19.95)
WIDL Video Chicago
5245 W. Diversey Ave.
Chicago, IL 60639
312-622-9206

1283

Apple II/III Software Directory
Vital Information Inc.
550 Union Station
Kansas City, MO 64108
913-384-3860

Commodore Software Encyclopedia
First Edition, April, 1981 ($4.95)
Commodore Business Machines, Inc.
300 Valley Forge Square
681 Moore Road
King of Prussia, PA 19406
800-523-5622

Continued on page 54

TICCIT

Continued from page 45

dria Campus, a traditional classroom instructor handles a total of 45-65 students. The TICCIT instructor, with the aid of two instructional assistants, handles 120-150 (and enjoys himself immensely!).

The first TICCIT math course had 52 students. Last year, almost 3,500 Northern Virginia Community College students used TICCIT. In addition to full courses in English and math, students studied COBOL, physics, chemistry, biology, music, and rules for writing research papers. The work offered via TICCIT, particularly the math, English and data processing, supports our technical education programs. Many of our business students study COBOL, and this is the biggest technical program at the college.

The faculty and students who work regularly with TICCIT are pleased with the system. Because it is a fully integrated, sophisticated system including two minicomputers, TICCIT goes far beyond the routine drill and practice that are characteristic of CAI with microcomputers. TICCIT is not a general purpose computer system; the only thing TICCIT does is teach. But teach it does, very well.

About the Authors
Edward Huff is associate professor of mathematics and Monica Sasscer is coordinator of the learning laboratories at the Alexandria Campus of Northern Virginia Community College.

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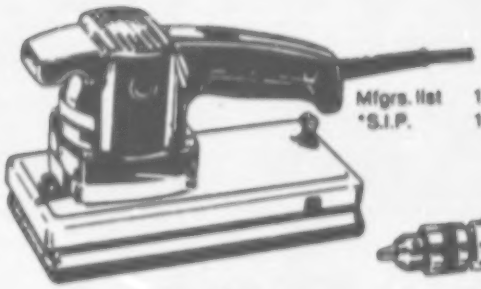

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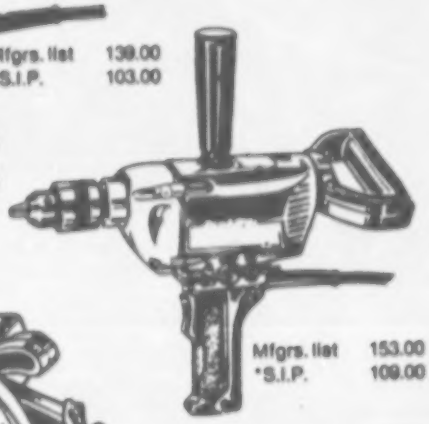

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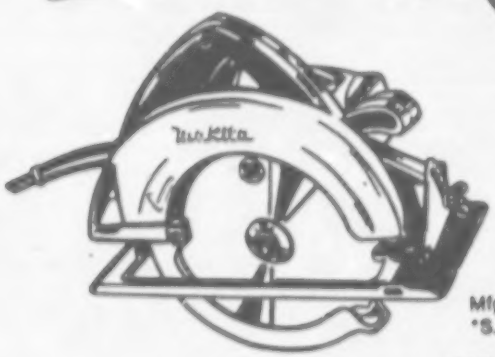
*S.I.P. 109.00



Mfgrs. list 147.00
*S.I.P. 108.00

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The Problem of Software

Continued from page 39

Radio Shack, TRS-80
Application and Software Sourcebook
CAT. No. 26-2114
Volume III ($2.95)

Robert Purser's Magazine
P.O. Box 466
El Dorado, CA 95623

School Microware
Dresden Associates
P.O. Box 246
Dresden, ME 04342

The following magazines not only provide review of software applicable to vocational education but also provide program listings which can be keyed into the computer for use in the classroom.

Creative Computing
Box 789-M
Morristown, NJ 07960

80 Microcomputing
The magazine for TRS-80 users
P.O. Box 981
Farmingdale, NY 11737
(the February 1982 issue is a "Special Education Issue")

Interface Age
P.O. Box 1234
Cerritos, CA 90701

Personal Computing
1050 Commonwealth Ave.
Boston, MA 02215

Popular Computing
Byte Publications
70 Main St.
Peterborough, NH 03458

About the Author
Wilma Jean Alexander, a professor of business education and administrative services at Illinois State University, Normal, Ill., has served for three years as the project director for Microcomputer Skills: Development and Dissemination.

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6. "The Dart Inventory Management Application" by Standard Logic, Inc.
7. "The Dart Kitchen Display" by Standard Logic, Inc.
8. "The Dart Kitchen Printer" by Standard Logic, Inc.
9. "The Dart Labor Scheduling Application" by Standard Logic, Inc.
10. "The Dart Model 5000 Mini-Terminal" by Standard Logic, Inc.
11. "The Dart Model 5100 Mini-Terminal" by Standard Logic, Inc.
12. "The Dart Positive Cash Control/Sales Reporting Application" by Standard Logic, Inc.
13. "The Dart Register" by Standard Logic, Inc.
14. "Datamaster, The All-Business Small Business Computer System That Sells For Less Than $10,000" by IBM Corporation
15. "Data Point-Of-Sale Sample Reports" by Standard Logic, Inc.
16. "The Full Course Point-Of-Sale/Manager System For Fine Dining And Fast Food Restaurants" by Standard Logic, Inc.
17. "The Hospitality Manager Overview" by Sci-Pro, Inc.
18. "The Hospitality Manager" by Sci-Pro, Inc.
19. "MSI's Portable Data Entry Terminals" by MSI Data Corporation
20. "Now Cash Registers Do More Than Hold Money" by Casio, Inc.
21. "The Omega Generation" by MSI Data Corporation

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3. "Computers Do Everything But Cook (NCR)", Restaurateur, June, 1981, P. 46
4. "Computers for Under $1,000", Restaurateur, June, 1981, P. 40
5. "Computer Under Glass", Restaurateur, June, 1981, P. 38
6. "Editorial by Ione Phillips, editor, P. 25, Voc Ed, April, 1982
7. "Electronic Tracking (NCR)", Restaurateur, June, 1981, P. 42
8. "Mexican Dinnerhouses Utilizing In-Store Point-Of-Sale Computers", Nations Restaurant News August, 1981, P. 58
9. "Point-Of-Sale Control (Am Documentor)", Restaurateur, June, 1981, P. 52

Books

1. The Affordable Computer, Claire Summer and Walter Levy, Editors
2. Computer Applications In Business, Simon Lambourn
3. Computer Essentials For Business, Donald H. Sanders
4. Computer Power for the Small Business, Charles J. Sippl and Fred Dahl
5. Computer Simulation In Business, Hugh J. Watson